



# ENERGY STORAGE SYSTEM SAFETY

## Survey Results: A summary of a few high-level takeaways from the recent stakeholder survey

### Introduction

On behalf of the DOE OE Energy Storage Program, we want to thank the 51 individuals who took the time to respond to the recent survey. Their input will be instrumental in our enhancing our collective efforts in support of timely deployment of safe energy storage technology under the newly launched ES Safety Collaborative.

The 51 respondents represented utilities (20%), first responders (14%), manufacturers (10%) contractors/installers (10%), system integrators, testing labs, and academia (8% each) and the remaining responses from a wide range of other stakeholder interests. The distribution of responses as a function of stakeholder interest is most likely linked to our past connections with those entities with the higher response rates. This suggests that as we move forward we take additional steps to ensure we are engaging with all relevant stakeholders, something reinforced when asked about awareness of our efforts and receipt of regular communications. As illustrated in Figure 1, we learned that those responding work primarily at the international, national and/or local level, although over 1/3 also work at the state and regional level. A vast majority are involved on both sides of the meter. Of those involved on the customer side of the meter most all respondents were involved in all types of installations (commercial, industrial and residential). This suggests, to the degree possible, that the ES SC focus on all levels from local to international, cover both grid and customer side interests as well as all types of installations.

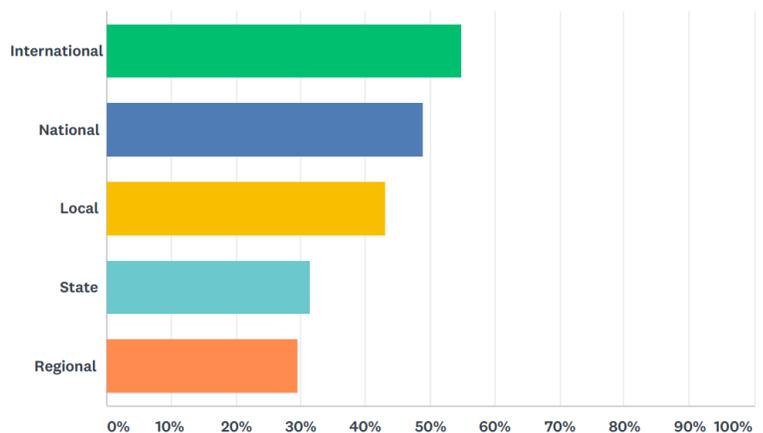


Figure 1 Respondents Scale of Role and involvement

In addition, in responding to a question about process improvement, the common theme of all responses was to broaden engagement/connect with other groups and stakeholders. Two thirds of those responding indicated they saw the national labs as a facilitator and coordinator and that preferred communications methods were through e-mail communications, published reports and forums/workshops. Those responses will help us to ensure our work and associated communications moving forward under the Safety Collaborative are appropriately composed and delivered.

We asked about some of our specific efforts in support of timely deployment of safe ES technology through the safety collaborative. Responses shown in Figure 2 indicated that the following three activities were most valued: information on codes and standards development and adoption, energy storage safety forum (annual), and the energy storage safety newsletter.

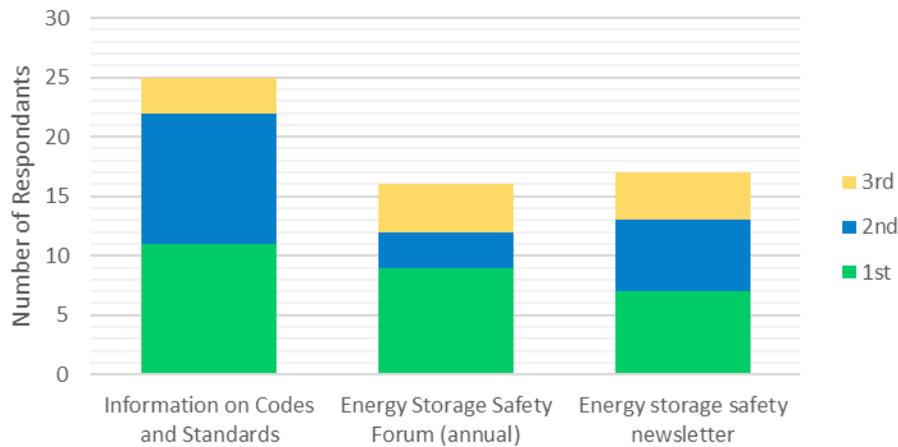


Figure 2 Ranked Value of our Recent Efforts

Additionally, our work to provide “Information to support documenting and verifying the safety of an ESS installation” was scored 2nd overall when weighting responses. Closely aligned to the above you also told us that development of materials to support compliance with codes and standards, additional content on events and activities related to ES safety and support for standards and model codes development would have the highest impact on improving ES safety. This feedback will help us focus future activities under the Safety Collaborative that specifically address what we were told is most important and will provide the highest value.

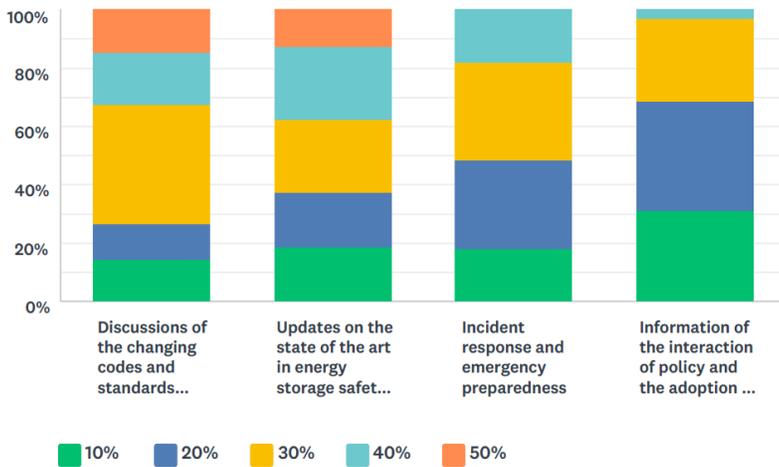


Figure 3 Desired Balance of ESS Forum Topics

Lastly, we asked how best to organize the next annual energy storage safety forum (Scheduled for March 2019). The top two topics were discussions of the changing codes and standards environment and applications of codes in practical settings and updates on the state of the art in energy storage safety technology and design, as shown in Figure 3. Based on this input will look to allocate an appropriate level of focus during the energy storage safety forum to these topics, while ensuring we are providing other relevant and valuable content.

Collectively we have all come a long way on this 'safety journey' in 2014. Clearly there is more to be done not only to address

current ES technologies and deployment challenges but moving forward to facilitate timely acceptance of new ES technologies and applications. With your valued input and continued participation and our efforts to 'reboot' and enhance what we have been doing we are confident we can make the ES Safety Collaborative a success.

Thanks again for your input to the survey and look for upcoming communications about future efforts to further the ES Safety Collaborative.



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